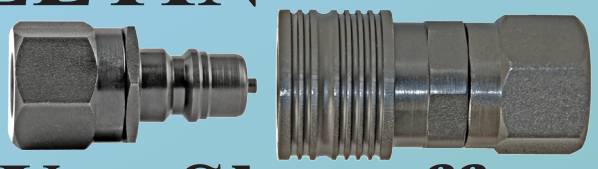
Production Control Units, Inc.

2280 West Dorothy Lane, Dayton, Ohio 45439-1892
Phone (937) 299-5594 FAX: (937) 299-4843

Web: www.pcuinc.com

SERVICE BULLETIN for Series 250 Two-Way Shutoff Valved Nipples and Couplers Models 71 and 72



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Production Control Units, Inc.-Coupler Products

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PCU Web Site: www.pcuinc.com - E-mail: couplers@pcuinc.com

Coupler Application Data Inquiry

Company _____ Phone # _____

Contact _____ Fax # _____

Address _____ E-mail _____

City _____ State _____ Country _____ Zip _____

Type & brand name for current coupler _____

Customer product manufactured _____

Type of coupler required

Size and type of tube or port to be sealed _____

☐ Straight ☐ Swaged ☐ Expanded ☐ Other _____

Length of tube or port available for coupler _____

Quantity required _____

Delivery due date _____

How will the coupler be used?

Refrigerant processing

What type of refrigerant? (HFC-134a, HP62, R-22, etc.) _____

Oil processing

What type of oil (Mineral, Polyol Ester, PAG, etc.) _____ (Attach MSDS)

Leak Burst testing

Maximum pressure & type of test media? (Air, Helium, etc.) _____

Vacuum

What level of vacuum needs to be achieved? _____

What Oil be present during vacuum pump down? _____

If "yes", what type of oil? _____

Additional process information

_____

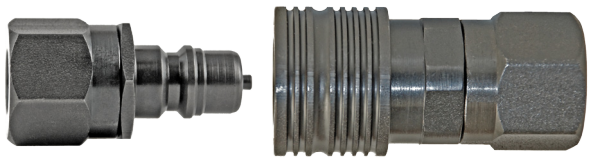
_____

_____

_____

Along with your request for quote, please provide (1) copy of print showing area to be sealed, and (3) quality sample parts.

NOTE: The Data Inquiry form is available in pdf format on our web site at www.PCUInc.com



GENERAL DESCRIPTION

The Models 71 and 72 Nipple and Coupler assemblies have an improved seal design. Field testing has shown that this design will offer longer life and better compatibility characteristics with blended refrigerants and ester oils. They will provide positive leak-tight shutoff and will hold pressure from vacuum to 1000 psig.

These tough, compact, lightweight PCU couplers utilize heat-treated parts for interchangeability and long life oxide and nickel finishes resist corrosion. They provide a large, unrestricted flow rate for a variety of production uses while minimizing process material loss during coupling/uncoupling.

An eight (8) ball detent lock provides instant positive coupling. Simply pull back the grooved locking ring on the coupler, slide the coupler over the Nipple and push together until the lock ring snaps to it's “lock position”.

Because of the unique design of the Series 250 Couplers and Nipple assemblies, they are able to be built using inexpensive seals which provide positive leak-tight shutoff. They will hold pressure from vacuum to 1000 psig.

COUPLER FEATURES & SPECIFICATIONS

SAFE: Positive ball-lock action prevents blow-off or premature loss of sealed connection.

STRONG: Holds pressures form 25 microns up to 1000 psig, minimum proof pressure 4000 psig.

MANY APPLICATIONS: Seal compounds can be easily changed for many uses with oils, refrigerants, water, air, and vacuum.

The standard Series 250 Coupler and Nipple assembly can be built with a variety of seal compounds to satisfy your application. Neoprene compound is generally used for R-22, R410, R404a and compressed air. Buna-N is generally used for HFC-134a with lubricants.

MAINTENANCE INSTRUCTIONS

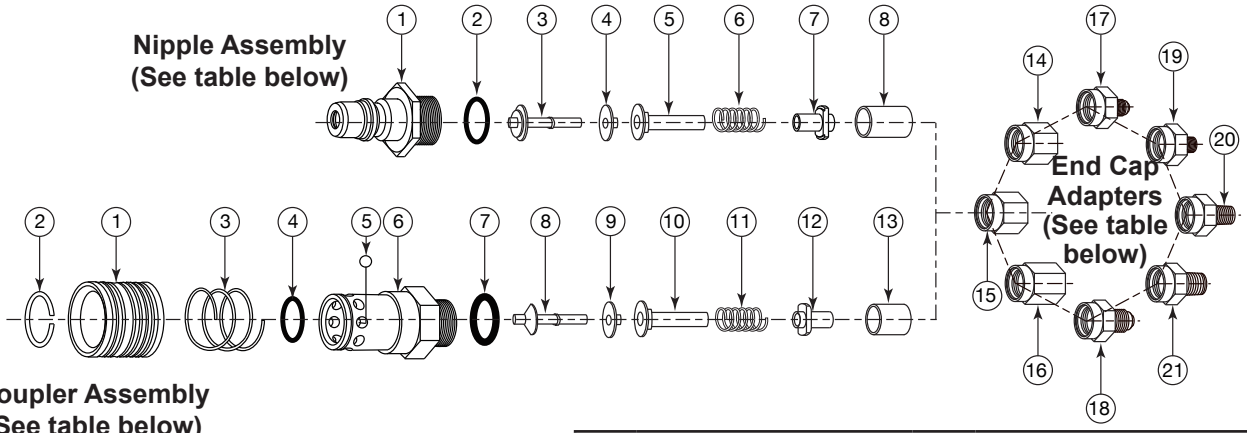
Coupler life is dependent upon a regular scheduled maintenance program. The application and its risk potential should determine frequency. PCU cannot determine a maintenance schedule due to the many factors involved: temperature, proper size selection, fluid compatibility, pressure, mechanical loads, user responsibility. User must establish a maintenance program based on previous service life. There are several factors that must be included when setting up a maintenance program: visual inspection for cracked, defective parts and excessively worn components; dirt or particle buildup in seal and clamping areas; thorough cleaning and proper lubrication; replace worn out and defective seals.

SERIES 250 TWO-WAY SHUTOFF VALVED COUPLERS AND NIPPLES

The basic Series 250 Two-Way Shutoff Valved coupler, less end cap adapter, consists of thirteen parts and the basic Series 250 Two-way Shutoff Valved Nipple, less end cap adapter, consists of eight parts, both of which must be assembled in correct order to assure proper functioning of the unit. Although all units are tested in our plant at 1000 psig air and less than 50 microns vacuum, Production Control Units, Inc.cannot be responsible for any malfunction of the Series 250 Coupler or Nipple due to faulty servicing of the unit in the field by people other than PCU filed engineers.

NEOPRENE SEALS

NIPPLE ASSEMBLY	71111	71211	71311	71131	71231	71331	71221	71321
	1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
COUPLER ASSEMBLY	72111	72211	72311	72131	72231	72331	72221	72321



End Cap Adapters			
14.	61876 - 1/8" FPT	18.	61821 - 3/8" SAE FL
15.	61830 - 1/4" FPT	19.	61868 - 1/8" MPT
16.	61869 - 3/8" FPT	20.	61845 - 1/4" MPT
17.	61829 - 1/4" SAE FL	21.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Items 3, 4, & 5 can be purchased as assembly 71008

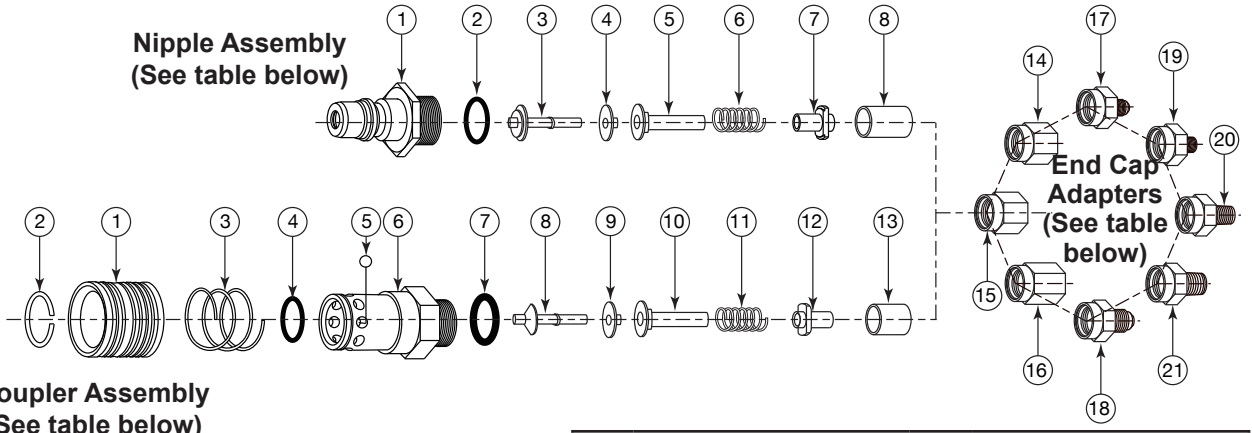
Nipple Assembly NEOPRENE SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61822
3.	**Nipple Valve Stem**	**71001**
4.	**Valve Seal**	**71004**
5.	**Valve Sleeve**	**71000**
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Items 8, 9, & 10 can be purchased as assembly 71012

Coupler Assembly NEOPRENE SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	Seal O-Ring	61834
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61822
8.	**Coupler Valve Stem**	**71002**
9.	**Valve Seal**	**71004**
10.	**Valve Sleeve**	**71000**
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

BUNA-N (NITRILE) SEALS

NIPPLE ASSEMBLY	71112	71212	71312	71132	71232	71332	71222	71322
	1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
COUPLER ASSEMBLY	72112	72212	72312	72132	72232	72332	72222	72322



End Cap Adapters			
14.	61876 - 1/8" FPT	18.	61821 - 3/8" SAE FL
15.	61830 - 1/4" FPT	19.	61868 - 1/8" MPT
16.	61869 - 3/8" FPT	20.	61845 - 1/4" MPT
17.	61829 - 1/4" SAE FL	21.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Items 3, 4, & 5 can be purchased as assembly 71007

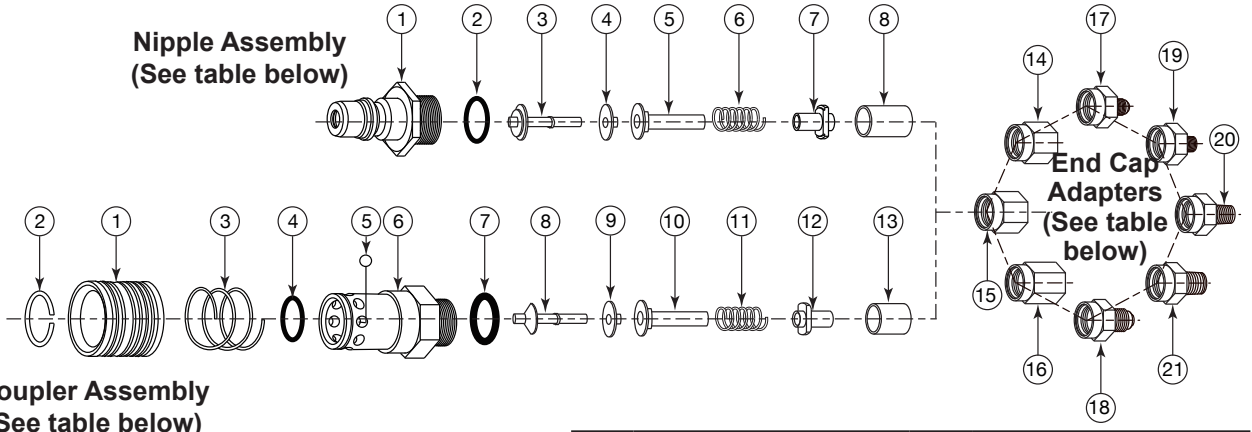
Nipple Assembly BUNA-N (NITRILE) SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61846
3.	**Nipple Valve Stem**	**71001**
4.	**Valve Seal**	**71003**
5.	**Valve Sleeve**	**71000**
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Items 8, 9, & 10 can be purchased as assembly 71011

Coupler Assembly BUNA-N (NITRILE) SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	Seal O-Ring	61848
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61846
8.	**Coupler Valve Stem**	**71002**
9.	**Valve Seal**	**71003**
10.	**Valve Sleeve**	**71000**
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

FLUOROCARBON SEALS

NIPPLE ASSEMBLY	71113	71213	71313	71133	71233	71333	71223	71323
	1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
COUPLER ASSEMBLY	72113	72213	72313	72133	72233	72333	72223	72323



End Cap Adapters			
14.	61876 - 1/8" FPT	18.	61821 - 3/8" SAE FL
15.	61830 - 1/4" FPT	19.	61868 - 1/8" MPT
16.	61869 - 3/8" FPT	20.	61845 - 1/4" MPT
17.	61829 - 1/4" SAE FL	21.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Items 3, 4, & 5 can be purchased as assembly 71009

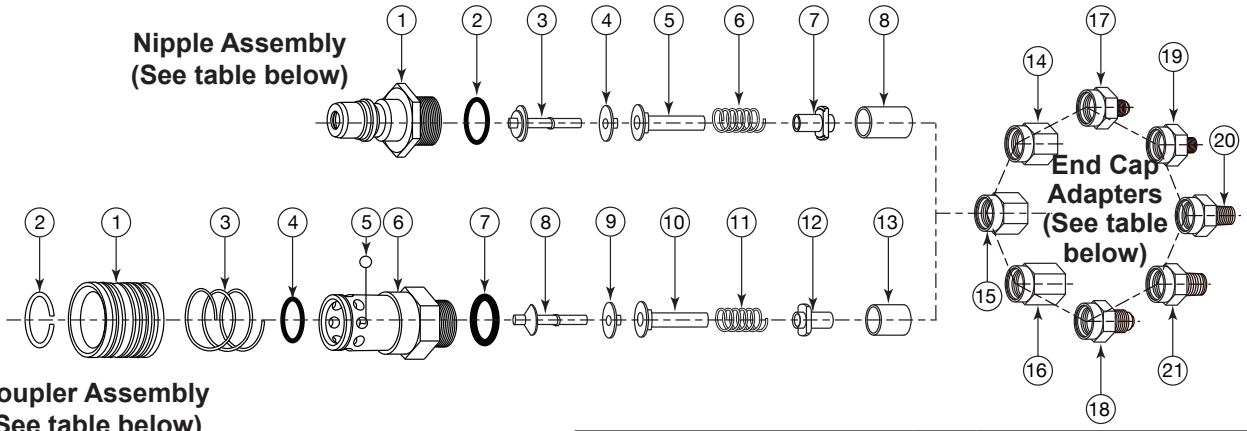
Nipple Assembly FLUOROCARBON SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61852
3.	**Nipple Valve Stem**	**71001**
4.	**Valve Seal**	**71005**
5.	**Valve Sleeve**	**71000**
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Items 8, 9, & 10 can be purchased as assembly 71013

Coupler Assembly FLUOROCARBON SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	Seal O-Ring	61854
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61852
8.	**Coupler Valve Stem**	**71002**
9.	**Valve Seal**	**71005**
10.	**Valve Sleeve**	**71000**
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

EPDM SEALS

NIPPLE ASSEMBLY	71116	71216	71316	71136	71236	71336	71226	71326
	1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
COUPLER ASSEMBLY	72116	72216	72316	72136	72236	72336	72226	72326



End Cap Adapters			
14.	61876 - 1/8" FPT	18.	61821 - 3/8" SAE FL
15.	61830 - 1/4" FPT	19.	61868 - 1/8" MPT
16.	61869 - 3/8" FPT	20.	61845 - 1/4" MPT
17.	61829 - 1/4" SAE FL	21.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Items 3, 4, & 5 can be purchased as assembly 71010

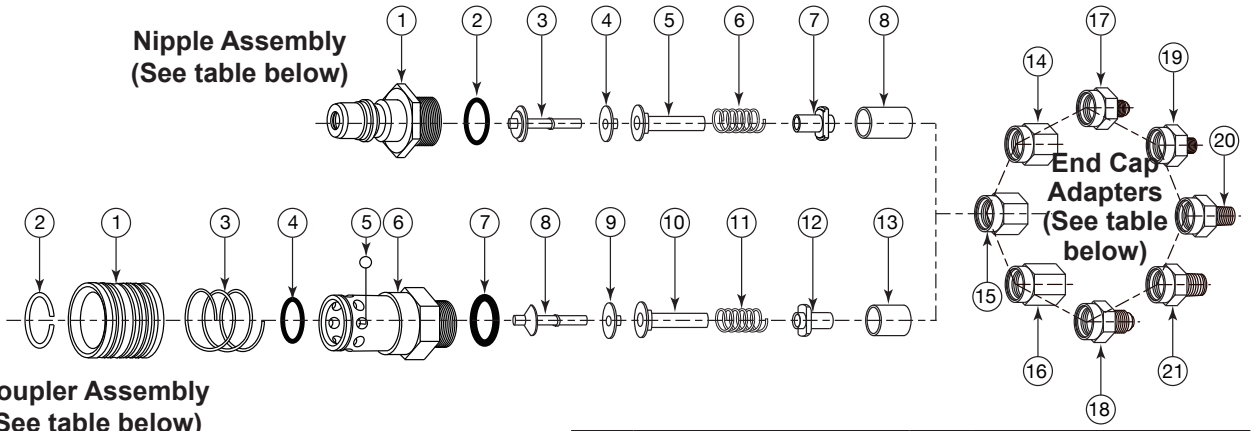
Nipple Assembly EPDM SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61871
3.	**Nipple Valve Stem**	**71001**
4.	**Valve Seal**	**71006**
5.	**Valve Sleeve**	**71000**
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Items 8, 9, & 10 can be purchased as assembly 71014

Coupler Assembly EPDM SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	Seal O-Ring	61874
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61871
8.	**Coupler Valve Stem**	**71002**
9.	**Valve Seal**	**71006**
10.	**Valve Sleeve**	**71000**
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

HFC-134a REFRIGERANT SEALS

NIPPLE ASSEMBLY	71117	71217	71317	71137	71237	71337	71227	71327
	1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER
COUPLER ASSEMBLY	72117	72217	72317	72137	72237	72337	72227	72327



End Cap Adapters			
14.	61876 - 1/8" FPT	18.	61821 - 3/8" SAE FL
15.	61830 - 1/4" FPT	19.	61868 - 1/8" MPT
16.	61869 - 3/8" FPT	20.	61845 - 1/4" MPT
17.	61829 - 1/4" SAE FL	21.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Items 3, 4, & 5 can be purchased as assembly 71007

Nipple Assembly HFC-134a REFRIGERANT SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61879
3.	**Nipple Valve Stem**	**71001**
4.	**Valve Seal**	**71003**
5.	**Valve Sleeve**	**71000**
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

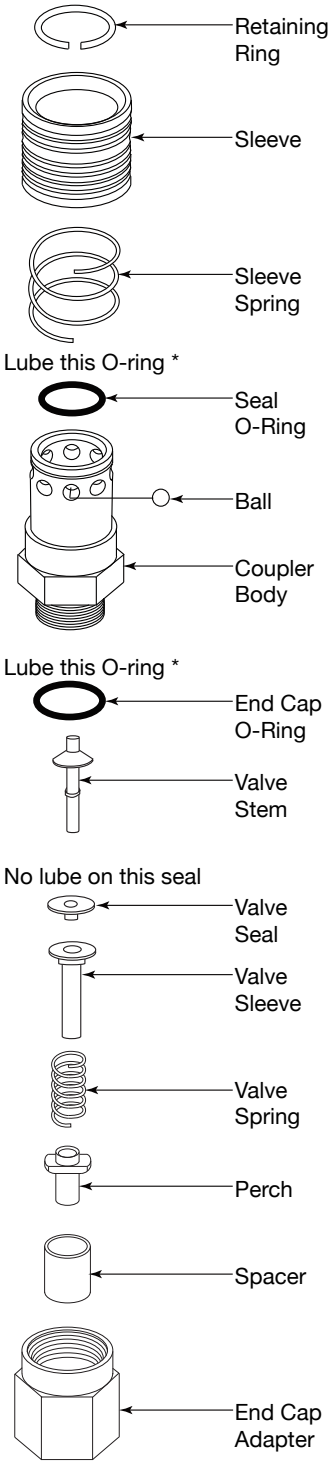
Items 8, 9, & 10 can be purchased as assembly 71011

Coupler Assembly HFC-134a REFRIGERANT SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	Seal O-Ring	61881
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61879
8.	**Coupler Valve Stem**	**71001**
9.	**Valve Seal**	**71003**
10.	**Valve Sleeve**	**71000**
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

SERIES 250 COUPLER ASSEMBLY

DISASSEMBLY - COUPLER

Holding the coupler assembly in one hand, pull the sleeve back with thumb and forefinger of same hand to expose the end of the coupler body. Using retaining ring pliers (PCU Part # A-21599) or a pointed tool, pry the retaining ring from the groove on the coupler body. Set aside. Insert Ball Assembly Tool (PCU Part # A-21587) to hold balls in place while removing coupler sleeve and sleeve spring. If you don't have a Ball Assembly Tool, carefully remove coupler sleeve and spring over a shop rag or towel to keep balls from rolling away. Remove balls and set aside. Place coupler body in a vise clamping on the hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Remove the coupler assembly from the vise. Holding the coupler body with its related parts threaded end up, remove the spacer and set aside. Tilt the coupler body down and slide out the valve assembly. (Note: Tap valve assembly loose if stuck.) Check and remove perch, spring, valve seal, and valve seal from valve stem. Discard all O-rings. With a pointed tool, pry seal O-ring from inside coupler body, being careful not to scratch O-ring groove.



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - COUPLER

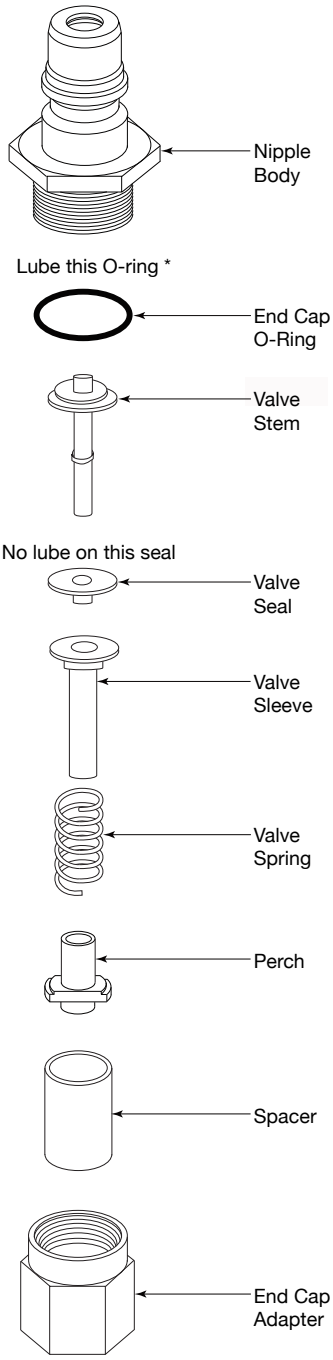
Lubricate O-ring with PCU Lubricant #490-00134 before inserting seal O-ring in groove inside coupler body. Press firmly against inner diameter to ensure proper placement of seal. After parts have all been inspected, pick up valve stem and slide new valve seal over stem and upon shouldered portion of the valve stem. **(Do not lube this seal.)** Next, position the valve sleeve behind the seal, making certain the counterbore portion of the valve sleeve is over the valve seal. **(Valve seal should be sandwiched between valve stem and valve sleeve.)** Slide the valve spring over the valve stem until it comes in contact with the flat side of the O-ring retainer. Slide the perch onto the valve stem, short end first, pushing it under the spring. Pick up the coupler body, holding it threaded end down, and slide the valve assembly up into the coupler body, valve stem first. Tilt the coupler body until the threaded end is pointing up, allowing the valve assembly to drop into place. Ensure that the valve assembly remained intact, then insert spacer into the coupler body until it comes in contact with the shoulders of the perch. Pick up the end cap adapter and screw the adapter to the coupler assembly. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Turn assembly over. Using the Ball Assembly Tool (PCU Part # A-21587), insert the balls (8) into the holes in the coupler body. If the Ball Assembly Tool is not available, use O-ring grease or petroleum jelly in ball holes to hold balls in place. Slide sleeve spring over end of coupler body; place sleeve over spring, large diameter first. Push retaining ring into groove in coupler body using fingers or you may use the small diameter of the Ball Assembly Tool and push down on the retaining ring until the retaining ring snaps into the groove on the coupler body. Remove assembly tool, if used; this completes assembly.

250 Coupler Service Tool Kit #460-00250	
625-00810	O-Ring Insertion Tool
21587	Magnetized Ball Assembly Tool
21599	Retaining Ring Pliers

SERIES 250 NIPPLE ASSEMBLY

DISASSEMBLY - NIPPLE

To disassemble the nipple assembly, place nipple body in a vise, clamping on the 1" hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Set end cap adapter aside. Remove nipple assembly from vise. Holding the nipple body with its related parts threaded end up, remove the spacer and set aside. Tilt nipple body down and slide out valve assembly (NOTE: Tap valve assembly loose if stock.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard O-rings.



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - NIPPLE

After parts have been inspected, pick up valve stem in one hand and slide valve seal (No Lubrication) over stem and upon shouldered portion of the valve stem. Next, position the valve sleeve behind the seal, making certain that the counterbore portion of the valve sleeve is over the valve seal. **(Valve seal should be sandwiched between valve stem and valve sleeve.)** Slide the valve spring over the valve stem until it comes in contact with the O-ring retainer. Slide the perch onto the valve stem, with its long end over the stem. Pick up the nipple body, holding it with the threaded end down, and slide the valve assembly up into the nipple body, valve stem first. As the valve assembly is slid into the nipple body, tilt the nipple body until the threaded end is pointing up to allow the valve assembly to drop into place. Holding the nipple body in that position, pick up spacer and slide it down into the nipple body until it comes in contact with the shoulders of the perch. Lubricate end cap O-ring with PCU Lubricant #490-00134 and slide over nipple body threads until it drops into groove. Screw the end cap adapter to the nipple body. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Reassembly of the Series 250 Nipple is now complete.

WE SPECIALIZE IN CUSTOM COUPLERS & TOOLING TO SUIT YOUR APPLICATION.


Series 25


Series 86


Series 87


Series 91


Series 93


Series 98

Series 100 & 101


Series 109


Series 250


Series 410


Series 500


Series 250 Evac & Charge


Series 13000


Series 104


Series 106


Series 106 Adapter

Call our Coupler & Specialty Tooling Team for more information.

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